

# NASA TECH BRIEF

## *Marshall Space Flight Center*



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### EKG Isolator

#### **The problem:**

Design a system for recording an electrocardiogram without exposing the patient to possible severe electrical shock.

#### **The solution:**

Use a light beam to transmit the heartbeat signal from the electrodes on the patient to the electrocardiograph.

#### **How it's done:**

Use conventional type electrical contacts for connecting the electrocardiograph to the patient. Amplify the heartbeat signals and feed them to the EKG isolator, which converts the signal from an electrical impulse to a light beam, using a light emission diode. Relay the signal by a light beam from the diode to a photo transistor in the output portion of the isolator and subsequently to the electrocardiograph.

This system provides complete isolation between the patient and the EKG instrumentation.

#### **Note:**

Requests for further information should be directed to:

Technology Utilization Officer  
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George C. Marshall Space Flight Center  
Huntsville, Alabama 35812  
Reference: B71-10124

#### **Patent status:**

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